

SITE PREPARATION

» NEW CONSTRUCTION

REMEDIAL REPAIR

HELICAL PULLDOWN® MICROPILE

ATLAS RESISTANCE® PIERS

HELICAL UNDERPINNING

EARTH RETENTION

RETAINING WALLS

HELICAL TIEBACK

SOIL SCREW®

PIPELINE STABILIZATION

TELECOM/SUBSTATION

UTILITY/SOLAR

CHANCE® DISTRIBUTOR
INTECH ANCHORING SYSTEMS, INC.
 Livonia, MI

CERTIFIED CHANCE®
INSTALLER
HI TECH FOUNDATION SYSTEMS
 Bryan, OH

STRUCTURAL ENGINEER
MORKEN CONSTRUCTION
 Fort Wayne, IN

GEOTECHNICAL ENGINEER
KIMMERLE ENGINEERING
 Hudson, IN

Hubbell Power Systems, Inc. is the world's leading helical pile/anchor manufacturer. The CHANCE® brand offers a technically advanced, cost effective solution for the Civil Construction and Electric Utility and Telecommunications markets.

Deep Foundation Iyopawa Island Home



“Kimmerle Engineering designed the home’s foundation which required 75 piles. When the final pile was installed a total of 4,807 feet of anchoring steel was in the ground creating a solid foundation.”

PROJECT:

Provide deep foundation stability for a 4,000 square foot home built on Iyopawa Island, Kinderhook, MI.

PROBLEM:

The soil on the desired build site for the 4,000 square foot home was less than desirable with blow counts ranging from 4 to 11 at depths of 45 feet. Due to the build site being on an island, there was limited access for large construction equipment. Construction noise and vibration were considered as the island’s main feature is the Iyopawa Island Golf Course.

continued



THE SOLUTION:

Before Morken Construction could begin to build, soil boring tests were performed to determine the stability of the soil. When it was determined that blow counts were ranging from 4 to 11 at depths of 45 feet, helical piers were the design recommendation for a solid foundation. Soil boring samples in the range of 4 to 11 are indicative of 'very loose' to 'loose' soil for coarse grained soils.

Kimmerle Engineering designed the home's foundation which required 75 piles. The product used for this design was the CHANCE® Helical Piles with lead section consisting of three helices of 8, 10 and 12 inches in diameter by 7 feet in length. Extensions were added to each of the piles as needed to reach the desired torque requirements. On average, the depth of each pile was 64 feet. The new construction cap was attached and buried six inches in the home's footer. When the final pile was installed a total of 4,807 feet of anchoring steel was in the ground creating a solid foundation.

In the spirit of being a good neighbor during the construction process, helical piles were the ideal foundation solution as compared to driven piles in regard to noise, accessibility and vibration during installation. Since CHANCE® Helical Piles require standard construction equipment to install, no large, noisy, vibrating machinery or excessive amounts of cement trucks were required.

KEY BENEFITS:

- **STANDARD EQUIPMENT FOR INSTALLATION**
Build site location with limited accessibility to large construction equipment
- **30 YEAR WARRANTY**
High potential of active zone soil movement due to location on a small island
- **REACH COMPETENT SOIL BELOW ACTIVE ZONE**
Loose soil even at depths of 45 feet. Average depth of pile - 64'
- **LOW TO NO VIBRATION/NOISE**
No disruption on golf course because of noisy and/or vibrating pile driving equipment

